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TOP STORY

## Ready for liftoff: Civil Air Patrol's UT workshop fuels Blount County teachers' interest in aerospace education

By Amy Beth Miller amy.miller@thedailytimes.com Jul 19, 2017



Teachers from five East Tennessee school systems watch as rockets they built are fired into the air Tuesday as part of the Kermit Duckett Memorial Aerospace Workshop at the University of Tennessee

Tom Sherlin | The Daily Times

After their creations were dropped off the roof onto the sidewalk in front of the physics building Tuesday morning at the University of Tennessee, the students eagerly unwrapped the packaging to see whether the egg inside remained intact.

Then they flew rubber-band powered airplanes in front of Ayers Hall and launched rockets they built, racing to intercept them before a crash back to earth.

Those students—all K-12 teachers—will be taking the thrill of experimentation and discovery back to their classrooms in five school districts.

Six of the 14 participants in the two-week basic aerospace education workshop this summer teach in Blount County Schools.

“Great teachers are always students themselves,” said Muffie Duggan, a kindergarten teacher at Porter Elementary School.

Her egg survived the drop wrapped in the cushioning of three large sponges, a design choice another teacher noted also would have been practical if she had to clean up a cracked egg.

Thomas Kowalewski’s parachute snagged on a nearby tree, so his egg never reached the ground during the experiment. “My design is working well,” the Heritage High School technology teacher said, since so far the egg was safe.

Now in its 22nd year, the workshop funded by the Civil Air Patrol has trained more than 500 East Tennessee teachers about aerospace education. In addition to earning three graduate credit hours, teachers become aerospace education members of the CAP. As such, the program gives them access to resources including curriculum guides, lesson plans and materials kits for teaching science, technology, engineering and mathematics.

STEM teacher Gina Grubb is looking forward to incorporating more weather lessons at Eagleton Middle School with the weather station kits available, as well as adding to the sixth-grade lessons on aviation.

“I’ve always had an interest in aviation but never pursued it,” she said.

Robyn Crum, who leads a robotics club at Heritage High, plans to use what she learned through the workshop to show her students the real-world applications of their lessons.

“I teach all levels of math, and it can get boring if you let it,” she said.

The workshop has put the teachers at the controls of a Cessna airplane flying over their homes and taken them to NASA’s Marshall Educator Resource Center at the U.S. Space and Rocket Center in Huntsville, Ala.

Thursday the teachers are scheduled to join the 134th Air Refueling Wing of the Tennessee Air National Guard on a refueling mission.

The teachers met retired astronaut Clayton Anderson, and retired Air Force Col. Paula Penson, now a management consultant, spoke to them about leadership.

Paul Lewis, director of space science outreach for UT’s Department of Physics and Astronomy, showed them how to use a pin-hole viewer during the Aug. 21 solar eclipse and how to safely build and launch rockets.

The teachers visited both McGhee Tyson and Island Home airports, learning about the wide range of careers available.

“Anything you can think of, they have a job at the airport,” said Lt. Col. Gary Lynn, director of aerospace education for the Tennessee Wing of the CAP. A former history teacher, he attended the workshop in 2000 and has been a CAP member ever since.

Before the workshop, “most of them had no idea what aerospace was about, let alone how to teach it,” said Lt. Col. Dave Garner, director of the workshop.

With the \$35 CAP educator membership, Garner said, “The stem kits they can get for their classrooms are worth thousands of dollars.”

The instructors also gave teachers low-cost options.

“You can make a launch pad out of a ceramic pot,” Lewis told the teachers as they were preparing their rockets for launch. At UT they had a controller to launch the rockets, but he told them, “You can actually raise the hood on your car and use the car battery.”

The CAP is a good way to get involved in aviation at a young age, Lewis said.

Teachers also learned about other programs available through the Air Force Association, such as CyberPatriot, the National Youth Cyber Education Program, which includes camps and a national competition designed to inspire K-12 students to consider careers in cybersecurity and other STEM fields.

“There’s lots of opportunities not only for teacher professional development but for students to get involved,” said Mark Andrews, who teaches algebra and geometry at HHS.

Library media specialist Suzanne Costner attended the basic aerospace education workshop in 2012 and returned Tuesday to tell this year’s participants how she has incorporated aerospace education in lessons at Fairview Elementary.

In September, she will receive the CAP’s national Aerospace Education Teacher of the Year Award.

The Kermit Duckett Memorial Aerospace Workshop is named for a professor who taught astronomy and physics at UT for more than 40 years and taught the CAP workshop before his death in 2013.

Learn more about the workshop at [www.capae.info](http://www.capae.info).

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